

# GAMIFIED INFORMATION SECURITY TRAINING:

Did it work for a GoC department?

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# BACKGROUND

Threat landscape

- External and Internal

Gartner Audit

GoC IT Security Actions for 2015-16:

- Employee awareness 6th on the list

Requirement to increase employee engagement



# INNOVATIVE FUTURE

## **Gamification**

Adding game elements to a task to make it fun!

## **Game-based learning**

Consuming training content by playing games



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# SOLUTION

## ESDC Proof of Concept Pilot (2015):

- 192 participants
- Voluntary participation
- 6 week period

## Objectives:

- Test effectiveness of gamification & game-based learning
  - Participation
  - Engagement
  - Results



# CONTENT

## **Public Information**

Unclassified information that, if compromised, could be expected to cause no injury.  
*Examples: public survey results, media communications*

## **Protected A**

Sensitive information whose unauthorized disclosure could reasonably be expected to cause a low risk of injury to individuals, specific public or private interests or government.  
*Examples: correspondence which may contain personal information elements, such as gender, date of birth, Social Insurance Number (SIN), Personal Record Identifier (PRI). Note that when data elements are compiled they constitute Protected B information.*

## **Protected B**

Particularly sensitive information whose unauthorized disclosure could reasonably be expected to cause serious injury to individuals, specific public or private interests or government.  
*Examples: Performance evaluations, medical evaluations, Threat and Risk Assessments*

## **Protected C**

Extremely sensitive information includes information whose unauthorized disclosure could reasonably be expected to cause extremely grave injury to individuals, specific public or private interests or government such as loss of life, significant financial loss, liability and embarrassment to the department.  
*Example: Name of an informant under protection of a law enforcement agency*

## **Classified – Confidential**

Information of limited sensitivity whose unauthorized disclosure could reasonably be expected to cause limited injury to the national interest.  
*Note: This classification level is no longer utilized within the Department but still must be recognized due to NATO. Follow guidelines for handling of SECRET levels of information.*

## **Classified – Secret**

Information of serious sensitivity whose unauthorized disclosure could reasonably be expected to cause serious injury to the national interest.  
*Examples: Memoranda to Cabinet, draft legislation and strategy options, federal-provincial discussions*

## **Classified – Top Secret**

Information of extremely serious sensitivity whose unauthorized disclosure could reasonably be expected to cause grave injury to the national interest.  
*Examples: Discussions or correspondences involving information suspected of being a threat to the security of Canada, loss of continuity of government, or widespread loss of life.*



# CONTENT

		Public	Protected A	Protected B	Protected C	Classified Secret	Classified Top Secret
Security Clearance Requirements and Access	Department Employee Access	Reliability Status	Reliability Status (could include credit check)	Reliability Status (could include credit check)	Reliability Status or Secret (includes mandatory credit check)	Secret	Top Secret (mandatory credit check, fingerprints, and three Passport size photos)
	Third Party Access	No restriction	Contact Regional Security Office	Contact Regional Security Office	Contact Regional Security Office	Contact Regional Security Office	Contact Regional Security Office
		Public	Protected A	Protected B	Protected C	Classified Secret	Classified Top Secret
Secure Storage of Information	Hard Copy	No restrictions	Operations Zone. Regular locking container or open shelving in an Operations Zone or other approved secure areas.	Monitored open shelving and Central Registry, a locked cabinet or security container, approved by the Regional Security Office.	Security Zone. RCMP security-approved container.	Security Zone. Only an RCMP security approved container is to be used.	High Security Zone. Only an RCMP security approved container is to be used.
	On Departmental Electronic Infrastructure	Yes	Yes	Yes	Use Sensitive Document Storage Service	Use Sensitive Document Storage Service	No
	On Department-Approved Data Storage Devices	Yes	Yes	Yes Secured in an RCMP security approved container when not in use	Yes Secured in an RCMP security approved container when not in use	Yes Secured in an RCMP security approved container when not in use	Yes Secured in an RCMP security approved container when not in use

# CONTENT

		Public	Protected A	Protected B	Protected C	Classified <i>Secret</i>	Classified <i>Top Secret</i>
Secure Disposal of Information	Paper	Regular paper recycling	Cross-cut (Type II)	Cross-cut (Type II)	Type II-Level 6 micro-cross-cut shredder approved by Security	Type II-Level 6 micro-cross-cut shredder approved by Security	Type II-Level 6 micro-cross-cut shredder approved by Security
	Data Storage Media (CD, DVD, Microfiche)	Contact National Service Desk	Contact National Service Desk	Contact National Service Desk			
	Removable Data Storage Devices (Hard drives, USB keys)	Contact National Service Desk	Contact National Service Desk	Contact National Service Desk			



# CONTENT

		Public	Protected A	Protected B	Protected C	Classified <i>Secret</i>	Classified <i>Top Secret</i>
Secure Transport of Hard Copy Information	By Hand Within Specified Zone	No additional handling instructions	Operations Zone: Envelope or folder	Operations Zone: Envelope or folder	Security Zone: Single sealed envelope without marking	Security Zone: Sealed envelope	High Security Zone: Sealed envelope
	By Hand Outside Specified Zone	No additional handling instructions	Operations Zone: Single sealed envelope	Operations Zone: Double sealed envelope, no security markings on outer envelope, "To Be Opened by Addressee Only".	Security Zone: Double sealed envelope, no security markings on outer envelope, "To Be Opened by Addressee Only".	Security Zone: Double sealed envelope, no security markings on outer envelope, "To Be Opened by Addressee Only".	High Security Zone: Double sealed envelope, no security markings on outer envelope, "To Be Opened by Addressee Only"
	By Post/ Courier	Single sealed envelope	Single sealed envelope, first- class mail.	Double sealed envelope using first class mail, no security markings on outer envelope	Double sealed envelope, no security markings on outer envelope, first class mail with tracking, requiring recipient's signature	Double enveloped, inner envelope marked "SECRET" and "To Be Opened by Addressee Only", courier service	Double enveloped, inner envelope marked "TOP SECRET" and "To Be Opened by Addressee Only", courier service



# CONTENT

		Public	Protected A	Protected B	Protected C	Classified Secret	Classified Top Secret
Secure Transmittal of Electronic Information	VOIP telephone	Yes	Yes	Yes	No	No	No
	Cellphone	Yes	Yes	No	No	No	No
	Regular Fax line	Yes	Yes	No	No	No	No
	Secure Phone/Fax Line	Yes	Yes	Yes <i>Use Admiral Secure Product</i>	Yes <i>Only SCIP devices can be used</i>	Yes <i>Only SCIP devices can be used</i>	Yes <i>Only SCIP devices can be used</i>
	Personal PDA or BlackBerry	Yes	No	No	No	No	No
	Department-issued BlackBerry	Yes	Yes	No	No	No	No
	Lync 2010	Yes	No	No	No	No	No
	Within departmental firewall – encryption required	No	No	No	Do not transmit	Do not transmit	Do not transmit
	Outside departmental firewall – encryption required	No	No	Yes	Do not transmit	Do not transmit	Do not transmit
	To a public/personal email system (e.g. jdoe@hotmail.com)	Yes	No	No	No	No	No





# #boring



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# LIVE DEMO

## Game-Based Learning Solution + Analytics Dashboard



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# FEEDBACK

## Content

% of people

who agree or strongly agree

**86%** | The content of the game is relevant to my work - what I have learned will be useful and applicable to my work

**82.5%** | I can identify the classifications of the various document types

**82.5%** | I can identify security clearance requirements and access for each type of information for departmental employees and for third parties

**82.5%** | I can identify where to safely store different types of hard copy materials and electronic information, referred to as e-information

**84.6%** | I can identify how to dispose of and destroy paper documents safely

**82.7%** | I can identify how to dispose of different types of e-information, data storage media and devices

**78.8%** | I can transport hard copy information securely

**86.5%** | I can transmit e-information safely according to the device I am using



# FEEDBACK

## Game Characteristics

% of people

who agree or strongly agree

80.7% | The amount of **time devoted to learning how to use the game** is reasonable

78.8% | The game has **clear goals** - I know moment-by-moment what I need to do

90% | The game was **challenging** and tested my Information Security knowledge

90% | I had **constant awareness of achievements** (Scores and lives)

90% | The game was very **Interactive**

78.8% | I liked the **aesthetic look** and **experiential feel** of the game

86.5% | The onscreen **graphics** and **interactions** helped me understand the course material

94% | The **interface** is user-friendly

94% | I encountered no system **lags** or **slow performance** during the game



# FEEDBACK

## User Experience

% of people  
who agree or  
strongly agree

**70%** **Attention**  
I was focused on the  
game. I lost track of time

**69%** **Control**  
I had a feeling of being in  
control and independent

**84.5%** **Excitement**  
Compared with other  
forms of training, the game  
was exciting and lively - I  
felt stimulated vs. passive

**69.5%** **Motivation**  
Competition and rewards  
motivated me to learn



# FEEDBACK

## Training Method

% of people  
who agree or  
strongly agree

85% | This method is more **engaging** than traditional training methods

92% | This method is more **fun** than traditional training methods

77% | This method is more **effective** than traditional training methods

86.5% | I would like to see more training programs delivered using this method



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# NEXT STEPS

## LAUNCHFIRE:

- Improvements: based on employee feedback
- More effective methods: (information transport & transmittal)
- Roll out: Personal Learning Environment



# NEXT STEPS

ESDC:

- Continue to socialize the concept with senior management
- Engage key partners



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# MORE INFO

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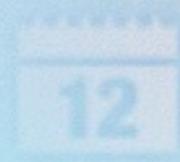
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# QUESTIONS



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